

Amendments to the Claims

1. (currently amended) An isolated polypeptide comprising the amino acid sequence of SEQ ID NO: 4 Seq. ID No. 4 or an amino acid sequence that is at least 50% homologous with Seq. ID No. 4, wherein an antibody that binds to the polypeptide inhibits the adherence or internalization of *Streptococcus uberis* to bovine mammary cells.

2. (currently amended) The isolated polypeptide of claim 1 which consists essentially of the amino acid sequence of SEQ ID NO: 4 is at least 60% homologous with Seq. ID No. 4.

3-14. (canceled)

15. (withdrawn, currently amended) An isolated nucleic acid comprising a nucleotide sequence that encodes a polypeptide comprising the amino acid sequence of SEQ ID NO: 4 hybridizes under highly stringent conditions to the complement of the nucleotide sequence of Seq. ID No. 5.

16. (withdrawn) The nucleic acid of claim 15 that comprises the nucleotide sequence of Seq. ID No. 5.

17. (withdrawn, currently amended) The nucleic acid of claim 15 that hybridizes

under highly stringent conditions to the complement of the nucleotide sequence of SEQ ID NO: 5
encodes a polypeptide comprising the amino acid sequence of Seq. ID No. 4.

18-35. (canceled)

36. (withdrawn, currently amended) An isolated antibody that selectively binds to
the polypeptide of claim 1 a polypeptide having an amino acid sequence of any 6 to 15 sequential
amino acids of Seq. ID No. 4.

37. (withdrawn, currently amended) The antibody of claim 36 that selectively
binds to the polypeptide of SEQ ID NO: 4 which inhibits the adherence or the internalization of
S. uberis to bovine mammary epithelial cells.

38. (withdrawn) The antibody of claim 37 which is a monoclonal antibody.

39. (withdrawn) The antibody of claim 37 which is a polyclonal antibody.

40-45. (canceled)

46. (new) A method for inhibiting *Streptococcus uberis* from adhering onto and/or
internalizing into bovine mammary epithelial cells comprising exposing the cells to an antibody
that selectively binds to the polypeptide of claim 1.

47. (new) The method of claim 46 wherein the antibody selectively binds to the polypeptide of SEQ ID NO: 4.